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Migration Strategy

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Migration Strategy

1.0 Purpose

This Migration Strategy provides background and format for developing a migration planning strategy. Although each strategy will be unique, a common framework will:

- help speed the process of strategy development;
- ensure that all significant influencing factors have been considered, and
- result in cost-effective, lower-risk approaches that promotes integration and interoperability.

A Migration Strategy for a DoD functional area is comprised of each product in the Integration Management process: Baseline, Legacy Assessments, Tree Diagrams, Cross Integration Assessment, Integration Decision Papers (IDP), and Tactical Integration Plan (TIP).

This document contains five sections. Section 2.0 contains an Overview of the impetus for a Migration Planning Strategy; Section 3.0 describes the *Key Factors* that can effect migration planning and its relationship to each integration management product; Section 4.0 identifies *Common Solutions* supporting migration planning requirements; and Section 5.0, *Components of the Migration Strategy*, describes each Integration Management Product.

2.0 Migration Planning Strategy Overview

The involvement of the Center for Integration and Interoperability (CFI&I) in the Migration Planning Strategy process is driven by two key documents:

- *Mr. Perry's 13 October 1993 Memorandum on Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement* dictates that all functional areas must have a migration strategy for selecting migration systems within six months.
- The *CFI&I: Integration Strategies* document conveys the CFI&I strategic plan for implementing its role in the integration management and migration management process. These processes are driven by DoDI 8020.1, "Functional Process Improvement."

3.0 Key Factors

Certain key factors must be considered when preparing a Migration Strategy. Each factor should be considered to determine scope, issues, funding requirements, technical approaches, coordination requirements, project dependencies, levels of effort, and schedule. The key factors are further described in the subsections below. Exhibit 3-1: Role of Key Factors in Migration Strategy, summarizes the relationship of each key factor to the Integration Management products.

<GRAPHIC: MS3_1.PCX>

Exhibit 3-1: Role of Key Factors in Migration Strategy

- *Number of systems* impacts the level of effort and the scope of the migration planning effort. The number of systems is a required factor in the early stages of the migration planning process, supporting the completion of the baseline, legacy assessment, and tree diagram products.

- *Number of installations* impacts the scope of migration planning effort in a similar manner as the number of systems. The number of installations supports the baseline and legacy assessment documents that are produced early in the migration planning process as well as the tactical integration plan for implementing the selected migration alternative.

- *Current technical architectures, including operating systems and hardware platforms* show the degree of Open System Environment (OSE) compliance and influences the technical approach. The current technical architecture is a key component of the baseline description and legacy assessment documents. Legacy assessments and further migration planning phases cannot proceed without information on the current technical architecture.

- *Connectivity of current systems, including ties to DII*, impacts the technical approach for migrating to the target system. With the exception of the tree diagram, connectivity

is a relevant factor for all migration planning phases. It is a critical legacy assessment and cross integration assessment factor, identifying cross-organizational communications capabilities to support migration.

- *Degree of integration with other systems within service, command, agency, or installation* impacts coordination requirements, project dependencies, and level of effort of in the migration planning process. As a result the degree of integration with other systems is a critical factor to be considered in the baseline, legacy assessment, crossintegration assessment, and EDP phases.

- *Performance requirements, including data capacity,* provide guidance for the formation Of the technical approaches and alternatives. The baseline, legacy assessment, DDP, and TIP phases consider performance requirement factors for baseline legacy systems and migration alternatives.

- *Availability of contract vehicles* impacts the dependencies, timing, and support of migration alternatives. Current contract vehicles in place and available vehicles to support migration are relevant factors for the baseline, IDP, and TIP products. This factor will help identify Contractual constraints in the current legacy environment and the acquirability of migration alternatives.

- *Diversity of business practices and functional requirements within the functional activity across different organizations* impacts the level of effort and scope of the migration planning effort. Functional requirements are required to characterize the functional baseline, perform legacy assessments, and complete the IDP and TTP, products.

- *Nature and status of current functional process improvement initiatives* impacts project dependencies and timing of the migration planning effort Current functional process improvements should be characterized in the baseline, IDP, and TIP products. The cross integration assessment cannot be completed without an analysis of the current functional process improvement initiatives.

- *Nature and status of current system development efforts* impacts the technical approach, project dependencies, and timing of the migration strategy. Current system development projects are usually related to functional process improvement initiatives and are required data for the baseline, IDP, and TIP products.

- *Cost Data* impacts the funding requirements, scope, and level of effort of the migration. Cost data of the baseline environment and alternatives is required for the baseline,
legacy assessment, tree diagrams, IDP, and TIP phases. Specifically, the cost data is used as input for cost, benefit, and risk analysis in the IDP.

- *Consequences of lost functionality if single solution imposed* identify possible problem areas and additional funding (staffing) requirements to compensate for lost functionality. This factor is assessed in the legacy assessment, cross integration assessment, IDP, and TIP phases.

4.0 Common Solutions

Several potential solutions have been successfully used in other integration efforts. The following are common technical solutions to support the near-term requirements of migration planning.

- *Subject Area Database (Shared Database)*
  A major part of most migration planning efforts includes data standardization and consolidation. Both of these efforts lead to a consistent use of standard data elements across applications, thereby making the data independent of the application. This independence can frequently result in subject area or shared databases.

- *Middleware*
  Migration Planning explores technical solutions for integrating systems. Middleware promotes interoperablity by providing a standard interface at the workstation level to different application and database platforms. Middleware also integrate the data environment at the workstation level by serving as an intermediary between several different application programs and DBMS platforms. The different applications and DBMSs interoperate, at the desktop level through the use of middleware.

- *False Front Technologies*
  False front user interface technology is a form of middleware allowing the introduction of GUI technology at the workstation in a 3270 screen oriented environment. Modem GUI technology can be inserted at the desktop without requiring modifications to the underlying legacy data, improving user productivity and ease of learning. The document, *User Interface Migration Guidance for the Business Mission Area, Version 1.0, 14 May 1993,* provides business mission area guidance in the area of user interface standards.

- *Communications*
  Communications is usually a major issue during migration planning. The baseline environment typically consists of dedicated circuits connecting dumb terminals or proprietary LANS. Migration Planning efforts should, where feasible, attempt to move towards assessing hosts via gateways and/or routers using TCP/IP and GOSIP compliant protocols. DISN should be used for long haul telecommunication where possible. Local users should connect to DISN via intelligent workstations connected to non-proprietary LANS. The document, *Communications Migration Guidance for the Mission Support Area, Version 1.0, 14 May 1993,* provides business mission area guidance on communication technologies as they relate to migrating towards an interoperable open system environment.

5.0 Components of the Migration Strategy

A Migration Strategy is comprised of products that result from the integration management process. The integration management products are shown in Exhibit 5-1: Integration Management and Products and described below.

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Exhibit 5-1: Integration Management and Products

- *Baseline* contains technical, functional and cost data describing the current environment of the functional area.

- *Legacy Assessment* collects the minimal data required to evaluate each legacy system in four key areas: functional, technical, data handling, and programmatic. The legacy assessment process is supported by the Defense Integration Support Tools (DIST). The legacy assessment data is both a source of baseline information and a source of data for selecting migration system candidates from the legacy systems.

- The *Tree Diagram* is a pictorial output from the DIST which displays the migration strategy for a functional area. The Arrow Diagram provides a pre view of various migration paths to a target environment. It lists legacy applications, migration system(s), and schedule and budget information by fiscal year for the migration paths.

- *Cross Integration Assessment* analysis identifies redundancy in functional support and provided between legacy systems across functional areas. It also identifies migration candidates that are used in more than one functional area or can satisfy deficiencies across functional areas.

- *Integration Decision Papers* evaluate the alternatives chosen based on the assessment of baseline data. The IDP evaluation occurs along the parameters of costs, benefits, and risks.

- *Technical Integration Plan* documents a method of implementing the migration alternative selected during the IDP process. This includes, but is not limited to, staff requirements, proposed methods and tools, cross-functional integration issues, schedule, cost estimates, and responsible organizations.